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MARYLAND ENTOMOLOGIST

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Meetings are held the third Friday of each month from October through May at 8 p.m. in room 401 of the Biology Building, University of Maryland Baltimore County.

DEAD ELM TREES
A MICROHABITAT FOR A GREAT VARIETY OF INSECTS

Robert S. Bryant

For the past three autumns I have been involved in dismantling three large, 100+ year-old elm trees in our yard that had fallen victim to Dutch elm disease. Autumn was chosen as the most propitious time for such an undertaking by a simple process of elimination: spring and summer are much more conducive to collecting and rearing Lepidoptera than playing lumber-jack, and winter is much too unpleasant to be swaying at the top of a 30-foot aluminum ladder. One might wonder why a lepidopterist, or indeed anyone in his right mind over the age of 12, would attempt such a task and not simply call in a professional. The reasons are legion, but without going into detail ad nauseum suffice it to say that we had had "competent professionals" remove six other elms in past years, and after observing their technique, or lack of it, I felt that I could do just as good a job with less noise and less damage to surrounding vegetation, not to mention at a substantial monetary saving. And so, armed with about 300 feet of rope in various lengths and diameters, assorted saws and other paraphernalia, and a blissful ignorance of what to expect from a dead elm or of tree trimming in general, I embarked upon my new project with the enthusiasm of a novice moth collector who has just discovered "black light."

Probably the first thing one notices while ascending a tree is a group of round holes about the size of a pencil, clustered around, though not restricted to, the crotches where the main branches take off from the trunk. I had seen these holes many times in lengths of cord-wood stacked on the ground but had never detected any activity in or around them and had assumed they were made by some beetle larvae. But, as I have subsequently discovered, they are made by the emerging adults of the common horntails. Tremex columba (L.) is by far the most numerous species, but I also collected a much rarer one, Tremex sericeus (Say), at a ratio of about 50 to 1. Until I began my aerial observing and collecting, I had considered all horntails rather scarce with the few individuals I had seen either bird damaged or crawling on the ground on very cool mornings. The reason for this scarcity at ground level is quite elementary. Because they are tree dwellers, there is nothing to interest them on the ground, and even if they emerge from a fallen log, within minutes they fly almost straight up for 40 feet or more. Judging from the number of holes in our trees, T. columba is anything but scarce although many hundreds of individuals are picked off by blue jays, cardinals, catbirds, grackles, and others that quickly learn to take advantage of the horntails' slow flight and predilection for sunning themselves on the exposed branches of the dead tree. The best way to collect the adults, or at least observe them at their peak, is to borrow a leaf from the bird's book of tricks. That is, get there early and wait. I seem to remember an old saying about the early bird getting the horntail! There are two flight periods per season: the larger one is in June, and the smaller one is in late September and early October. During the hours preceding dawn the emerging adults chew through the last bit of wood or bark at the surface and then wait, in the burrow, with their heads completely plugging the openings, until the sun comes up. The males emerge first, usually between 7 and 9 a.m., and the females emerge between 9 a.m. and noon.

Before this article turns into the definitive treatise on horntails and their habits, I should move on to some of the other denizens of dead Ulmus americana (L.), but I feel there is one other point to be noted about horntails, or more precisely about their workings. Anyone who knows beans about elm trees will tell you that a dead one can not

stand intact for more than three years. This is difficult to understand at first because elm wood in exceedingly hard and tough and should take a decade or longer to rot away under normal weathering conditions, with the smaller pieces falling off first. But in two years or less even the major limbs of 10 inches diameter or more begin to break off during wind storms. Yet when they are cut up on the ground, the wood between the tip of the branch and the breaking point is still sound. The reason becomes apparent when you know the horntail's habits and observe what happens as a direct result. The female horntail lays her eggs in or near the crotch of the bain branches. As the larvae eat their way through, the wood is weakened somewhat but probably not seriously. Then the adults emerge, leaving the large open holes. Rain and humidity penetrate, and the holes fill with a white fungus. This fungus apparently breaks down the wood fibers very quickly, and voila! an otherwise sound branch comes crashing down on our garage. Thanks a lot, T. c.!

As promised, I shall now move on to other creatures occupying the dead elm niche. Where horntails abound, the long-tailed ichneumons, Megarhyssa, are usually present in some numbers. Although I have caught many specimens at ground level as they searched and subsequently laid eggs in stacked wood, even greater numbers can be observed flying around and ovipositing in the trunk and major limbs of a standing tree. I have collected at least four species to date: two common ones, M. greenei (Vierick) and M. lunator (F.), and two scarce species, M. atrata (F.) and an unidentified species. I have caught only four female specimens of atrata in 25 years. The first three showed not the slightest interest in our elm trees. I was convinced they must utilize borers in some other tree species. However, this year I captured a female ovipositing in an elm trunk but much nearer the ground than either lunator or greenei do, perhaps an indication of a different host species. In some large female specimens of lunator and atrata the ovipositor may be more than four inches long, and I have seen them with it buried to the hilt in apparently solid wood, but most of them will take short cuts whenever possible. That is, they will use cracks in the wood or old horntail holes to give them an inch or two head start. Many females are caught by birds at this time when their ovipositors are deeply imbedded in the wood, and I have seen numerous broken ovipositors protruding from the branches, serving as stark reminders of the fate of their owners. This year I picked up two female lunator with most of their ovipositors missing, suggesting a less than fatal encounter with a bird.

There are perhaps four or five representatives of other genera of ichneumonids visible in the lofty reaches of the elm branches, but I have been unable to discover their hosts because there are so many possibilities. Many other kinds of Hymenoptera may be seen in and around the elm tree. There seem to be at least four kinds of wood-boring or wood-dwelling bees that either dig their own tunnels or use old horntail tunnels or other existing cavities. Also, during the latter half of the summer the larger predatory species are often seen searching the branches for prey. Sphecius speciosus (Dru.) is occasionally seen searching for cicadas. Vespa crabro (L.) and V. maculata (L.) are regularly encountered searching for prey. These and several other paper nest builders utilize rotted elm wood for their nests. One short rotted branch, about 40 feet above the ground was literally chewed to pieces by hornets making regular visits for wood pulp.

Unfortunately, there seem to be no Lepidoptera that are dependent on dead elms for their existence. However, some can be collected or observed resting on its surface. I will not list the species I have taken from elm, as this would fluctuate with the area, but mention of the families or genera might be of interest. Far more moths than butter-

flies are encountered, and these are merely resting during the day in semi-concealment on the rough bark. Several species of sphingids, most of the local Catocala, plus Acronicta, Prodenia, and Epimecis are the main ones among the macrolepidoptera. The rough bark also offers excellent hiding places for several microlepidoptera. The only butterflies I have noticed in the trees are Polygonia species, and they only use them as resting places to sun themselves.

The most numerous inhabitants would have to be the ants, Formicidae. There are ants of every size and description from giant-economy-sized carpenter ants to tiny, almost microscopic varieties. Even to my untrained eye, there appear to be nearly a dozen species. Some no doubt are ground dwellers and are in the trees on foraging expeditions, but I have seen nesting colonies of three species. The most surprising of these was a colony in the tallest branch of the tree, about 60 feet from the ground. I had cut off the top 15 feet and lowered it by rope. As the top end touched the ground, a small piece broke off and about 25 medium-sized, black ants with very short legs spilled out. If I had not seen where they came from, I would not have believed that any creature would choose such a fragile nesting site. Surely they must realize that on some windy night in midwinter their nest, with them in it, would wind up on the ground! Ants usually display more intelligence than that!

The Coleoptera are well represented in practically every square inch of the elm tree at one time or other. The bark beetles, Scolytidae, make their distinctive, centipedelike etchings under the bark from the uppermost twigs down to the main trunk. The tenebrionid, Alobates pennsylvanica (DeGeer) can be found by the hundreds, hibernating under loose bark. They are slow moving and nocturnal, and though they reportedly feed on other insects, all I have seen them eat are various kinds of fungus. Pelidnota punctata (L.), Popilius disjunctus (Illiger), and Pseudolucanus capreolus (L.) can be found in the roots and rotting stump and also in the felled branches as long as they are in contact with the ground. The very pretty orange and gray cerambycid, Saperda tridentata (Olivier) finds the dead twigs enticing places to lay its eggs. A curious looking species occasionally found under the bark is the wafer-thin hister beetle, Hololepta fossularis (Say). These are amazing beetles because of their secretive habits and their ability to crawl into, and preference for, tight places. They are most often seen crawling on the ground at night, especially when they are crossing a sidewalk.

From the moment I first decided to record my observations on the insects connected with elm trees, I became more acutely aware of species I might not have noticed otherwise. Such was the case the other day. As I was attaching a rope 20 feet above my head with a long pole, I detected something moving on the branch in front of me. On closer inspection I discovered a specimen of Glischrochilus fasciatus (Olivier), Nitidulidae, investigating a crack between two loose sections of bark, apparently looking for a place to pass the winter. Similarly, I found a small group of Galerucella xanthomelaena (Schrank), Chrysomelidae, hibernating under loose bark. Another hibernator frequently encountered is Chilocoris stigma (Say), Coccinellidae. Stigma is the common black ladybird beetle with two orange spots, though strangely I have yet to find any of the equally common orange varieties with black spots. But the real surprise came a bit earlier this fall when I was removing a large slab of bark. Completely encased in sawdust and dirt was a little speck of metallic green. I knew almost immediately what it was, but its presence in that spot at that time posed some interesting questions. As the specimen was dead, and probably had been so for about three months, all of the soft parts had rotted away. However, I was able to reconstruct a large female specimen of Buprestis rufipes (Olivier) from seven major pieces. Elm is not listed as a food of

rufipes, so it is possible that the beetle was sunning itself on the bark or hiding under it and fell prey to a spider or other predator. This conjecture is bolstered further by the fact that two inches from where the rufipes had become lodged were a dead A. pennsylvanica and several horntail wings.

Because the dead tree supports a vast array of life forms, it is not surprising that a large group of predatory arthropods find haven and sustenance in its protective crevices. The spiders and allies are represented by at least a dozen species, most of which I have seen in other locations around our yard. One exception is a very flat, brown, crab spider that blends so well with the bark, it is practically invisible until it moves. Another is a very small, very active, gray jumping spider. A third is an even smaller species of orb weaver whose entire snare is barely as large as a standard coffee cup. The only ones I know on sight are Amaurobius ferox and Dysdera crocata (Koch). Both are medium-sized, common spiders, and both inhabit the loose bark at the base of the tree. Also under the bark are four or five kinds of centipedes, two kinds of millipedes, and pill bugs.

Several species of arboreal Orthoptera are usually present. Most of them seem to be transient, en route between the surrounding live trees. However, Orocharis saltator (Uhler), the jumping bush cricket, is always present, hiding by day under loose bark and coming out at dusk to forage and call to its mate. It is interesting to note the difference between the song tempo on cold nights as contrasted with that on warm nights. A formula has been worked out for determining the temperature by counting the number of chirps per minute of Oecanthus niveus (DeGeer), the snowy tree cricket: Let T=temperature in degrees Fahrenheit; N=number of chirps per minute; then $T=50+\frac{N-40}{4}$. This formula would give 100 chirps for 65 degrees Fahrenheit. I have not tested this formula on O. saltator, but the cadence is markedly slower on cool nights than on warm ones.

Two members of the order Hemiptera have been collected thus far. This year a large female specimen of the wheel bug Prionidus cristatus (L.) was captured as it walked along one of the horizontal branches, and last year several specimens of leaf-footed bugs, Coreidae, were taken on the main trunk.

The Homoptera are also represented. Most numerous are the cicadas, of at least two species, but they generally only stop long enough for one or two choruses of their raucus songs and then depart. This year I spotted an unfamiliar species of membracid and almost lost my footing reaching for it. However, it saw my movement and decided I constituted a threat to its well being.

Last and certainly least numerous of all are the Odonata. My single specimen was collected one cold October afternoon when a small clearwinged dragonfly with a red abdomen landed three feet in front of me to sun itself. I managed to put my finger on its abdomen to prevent its escape.

Although the loss of our stately old elms is a particularly depressing situation for me, it has afforded a unique opportunity to observe various species of insects at close hand. I would like to urge all our Maryland collectors to be more observant in all their field and laboratory work and to report these observations at the Maryland Entomological Society meetings or through the Maryland Entomologist. I close with a quote that comes to mind on this subject from L. O. Howard's Insect Book. "Why has no one ever worked on a full life history, with all its interesting details, of one of our

commonest crickets? It is earnestly to be hoped that some good observer will answer this conundrum with the following words: 'Because it has been left for me to do, and I propose to do it as soon as possible.'"

ENDANGERED AND THREATENED BUTTERFLIES

John H. Fales

On December 28, 1973 the United States Congress approved an act to provide for the conservation of endangered and threatened species of fish, wildlife, and plants and for other purposes. This act is known as the "Endangered Species Act of 1973", and it supplants the "Endangered Species Act of 1969." The new act is administered by the Office of Endangered Species and International Activities of the United States Fish and Wildlife Service, Department of the Interior.

The new law encompasses all species of the animal kingdom, and the term "species" can include any species, subspecies, or smaller taxonomic unit of plant or animal and any viable, population-segment thereof. The law establishes two categories of endangerment: a) those species in danger of extinction throughout all or a significant portion of their range--i.e., Endangered Species; and b) those species that are likely to become endangered within the foreseeable future throughout all or a significant portion of their range--i.e., Threatened Species. Under the new Act there will be two published lists, "Endangered" and "Threatened."

On March 20. 1975 the Director of the Interior Department announced in the Federal Register a notice concerning United States butterflies. It stated, "Notice is hereby given that the Department of the Interior has evidence on hand to warrant a review of the following species of butterflies to determine whether they should be proposed for listing as either Endangered or Threatened Species." The list included 41 species of butterflies on which views of interested parties were solicited by June 18, 1975. In the months that followed the Office of Endangered Species thoroughly studied the views that were submitted. The revised list included only six butterflies. These were again published on October 14, 1975 as Proposed Rules in the Federal Register stating that six subject butterfly species were Endangered Species as provided by the Act. The six butterflies became the first Endangered insects to be protected by the Act with the publishing on June 1, 1976 of the Final Rulemaking pursuant to the Act. The rule became effective June 8, 1976.

The six protected butterflies are:

San Bruno elfin (Callophrys mossii bayensis (R. Brown)). This butterfly is limited in occurrence to a few moist canyons in San Mateo County, California.

Lotis blue (Lycaeides argyrognomon lotis (Lintner)). At present this butterfly is definitely known to occur in only a few isolated bogs in Mendocino County, California.

Mission blue (Icaricia icarioides missionensis (Hovanitz)). This subspecies is limited in distribution to two small, isolated populations that occur on the summits of Twin Peaks, San Francisco County and the San Bruno Mountains, San Mateo County, California.

Smith's blue (Philotes enoptes smithi (Mattoni)). This butterfly is known from coastal sand dunes in Monterey County, California.

El Segundo blue (Shijimiaeoides battoides allyni Shields). This subspecies is now limited to a few acres near El Segundo and a larger area at the west end of the Los Angeles International Airport.

Lange's metalmark (Apodemia mormo langei J. A. Comstock). This butterfly now

occurs only on a few acres near Antioch, Contra Costa County, California.

In further action the U. S. Fish and Wildlife Service published in the Federal Register on April 22, 1975 a Rulemaking proposing that two Florida butterflies, the Schaus swallowtail (Papilio aristodemus ponceanus Schaus) and the Bahaman swallowtail (Papilio andraemon bonhotei Sharpe) are Threatened Species. Later the Service published on April 28, 1976 the final Rulemaking stating that the Schaus swallowtail and the United States population of the Bahaman swallowtail are Threatened Species. Adults of either species may be collected but not the eggs, larvae, or pupae.

The Service is studying the status of other insects including Odonata, Hemiptera, and Coleoptera.

The following interesting table of Endangered and Threatened Species of wildlife was taken from the September 1976 Endangered Species Technical Bulletin.

Box Score of Species Listings

	Number of Endangered Species			Number of Threatened Species		
Category	U.S.	Foreign	Total	U.S.	Foreign	Total
Mammals	35	215	250	1	3	4
Birds	65	144	209	1		1
Reptiles	8	46	54			
Amphibians	4	9	13			
Fishes	30	10	40	4		4
Snails		1	1			
Clams	22	2	24			
Crustaceans						
Insects	6		6	2		2
Total	170	427	597	8	3	11

Number of species currently proposed: 73 animals
Number of Critical Habitats proposed: 9; listed: 1
Number of Recovery Teams appointed: 57
Number of Recovery Plans approved: 3
Number of Cooperative Agreements signed with States: 14

Selected References

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STINGING INSECTS

William Pyles

The stinging insects are in the order Hymenoptera and are commonly known as bees, wasps, and ants. This is rather a large group of insects with over 100,000 species in the world. In the Washington, D. C. area we are primarily concerned with the honey bee (Apis mellifera L.), bumblebee (Bombus species), paper wasp (Polistes species), yellow-jackets and bald-faced hornet (Vespula species), and European hornet (Vespa species).

All of these insects are capable of delivering a painful injection of venom via a sting. All of them are also social. By this is meant that they live and work together in the same nest. When these nests are constructed in areas that interact with human activity, problems can arise.

Some other familiar stinging insects are carpenter bees, sweat bees, cicada killers, and mud daubers. Although these insects are capable of stinging, they rarely do. These are solitary insects that do not form a common nest.

In temperate North America only the honey bee is able to survive the winter as a colony. They eat the honey gathered during the preceding seasons. All the other social colonies die out each fall, and only newly mated queens survive the winter by hibernating.

In spring these queens emerge and begin a new nest. It is usually late June before the colony is large enough to be noticed readily. It is at the nest that these insects are so aggressive. A worker away from the nest rarely stings. By late September special cells are prepared in the nest, and queens and males are produced. Shortly after mating the queens go into hibernation, and the males and old colony members perish in cold weather.

Early in the season the diet of the wasps and yellow jackets is mostly small caterpillars, a very beneficial activity. By late summer there is a noticeable change in diet to sweet substances. This preference is quite evident at most outdoor functions where food and beverages are present. The worst offenders are the yellow jackets.

The sting of these insects is a powerful mixture of proteins and enzymes similar to snake venom. The sting apparatus is a modified ovipositor. As this is the case, only female Hymenoptera can sting. A small percentage of humans suffer a severe allergic reaction from this venom. The reaction can range from excessive swelling to an outbreak of hives. In the extreme case the victim can lapse into anaphylactic shock within minutes. Unfortunately, there is presently no practical way to predict a reaction. If you are stung and have no reaction, it is still possible to have a reaction with the next sting. Treatment for stings consists primarily of making the victim comfortable. Assuming there is not an allergy problem, there will be some local swelling for about 24-48 hours and itching for several days. A cold compress applied to the stung area of the body may help slow the venom spread and retard the swelling. Several types of ointments are available for relief from itching. The true medicinal value of these and other remedies is questionable. An allergic reaction should receive immediate medical attention.

Insecticidal control of these insects involves getting an insecticide to the nest

area. In most cases where the nest is accessible this is best accomplished at night when all the insects are in the nest.

OCCURRENCE OF THE MONARCH BUTTERFLY IN SOUTHERN MARYLAND IN 1976

John H. Fales

The northward migration of the monarch butterfly (Danaus plexippus plexippus (L.)) in the spring of 1976 was first recorded in Calvert County, Maryland on April 20 (female). A careful watch was made and additional specimens were recorded on April 21, 22 (2 specimens), 23 (female collected), 24 (female collected), 30, and May 6. The collected as well as the observed specimens were very faded and worn, an indication that they were of considerable age.

The first fresh specimens were not recorded at Plum Point until May 29. Males were noted on June 10 and 16. Thereafter monarchs were recorded on July 7, 9, 11, 12 (1 female), 13, 16, 19, 24, 28, and 29.

Monarchs were present on August 2, 6 (Charles Co.), 7 (Prince George's Co.), 17, 18 (Queen Anne's Co.), 20 (Prince George's Co.), 22 (St. Mary's Co.), 24 (Prince George's Co. and Montgomery Co.), 26, and 29.

Monarchs were noted on September 3-8. 10, 11, 14, 19, 20, 22-24, 28, 29 and on October 5, 7, 10-16. The only other record was for November 3.

The first indication of a southward migration was on August 20 when a monarch was seen possibly migrating in Prince George's County. The next apparently migrating monarchs were seen on September 4 and 7 in Calvert County, and on the latter date also in Charles County. During September monarchs were seen mostly feeding on flowers, resting, and mating in both Calvert and Charles counties. The first good evidence of a migration was at Plum Point on the afternoon of September 22. At 3:45 p.m. (EST) six specimens were seen flying inland from over the Chesapeake Bay to the SSW against a breeze in a one-minute period. The results of a 10-minute count over a 200 foot front follow.

Time (p.m., EST)	Number of Specimens and Flight Direction
4:02	2 to WSW into NW breeze
4:05	3 (1 at 3' altitude, 2 at 40' altitude)
4:05.30	2 to S
4:06	1 to S at about 75' altitude
4:08	1 to SW
4:09	1 to SW very high
4:10	1 to SW very high
4:11	2 to SW (1 at 15' altitude, 1 at 60' altitude)
4:12	1 to SW at 40' altitude

The sky was clear; the temperature was 70 degrees F.; and the breeze was 5-10 miles per hour.

On the following day two migrants were seen at 6:30 a.m. and another in the late afternoon. The next migrants were seen on September 28 (5) and on September 29 (1). One was noted migrating on October 5 in Prince George's County. Ten were seen migrating in Calvert County on October 10, and single specimens were seen flying there on October 11, 14, 16 and November 3.

Monarchs in this area in 1976 appeared to be less abundant than usual. Also, the fall migration appeared to be generally weaker than in recent prior years.

Recommended reading on the subject is "Found at last: the monarch's winter home" by Fred A. Urquhart, National Geographic Magazine, August 1976.

RECORDS OF HEMILEUCA MAIA (DRURY) IN MARYLAND

John H. Fales

Afield on bright and even cool days in the fall, the collector may be startled to see an unfamiliar black-and-white Lepidopteran in a wavering but rapid flight. This good-sized, difficult to catch saturniid is the day-flying buck moth, Hemileuca maia (Drury). This species is single brooded, and the adults occur in the fall, usually in October. It ranges over most of the eastern United States, and the larvae feed on oaks.

Given here are the records of occurrence obtained by the writer at the Beltsville Agricultural Research Center, Beltsville, Maryland (Prince George's County) over several years. Except where mentioned the date indicates a single record. Most of the records are from the last third of October. D. C. Ferguson (1971, The Moths of America North of Mexico, Fascicle 20.2A) mentioned that this moth flies in the morning before noon. The Maryland records given here except for one were mostly between 12:30 and 1:00 p.m. EST. However, one specimen was recorded as late as 3:00 p.m.

Some Maryland Buck Moth Records

1944	Notes of 1945 indicate, "Seen often last fall."
1945	October 14, 19, 22, 26(2)
1946	October 22(4), 23(8), 24(6), 28(4), 30, 31(3)
1947	October 21, 29(2)
1948	October 20, 27, 28
1950	October 19, 20
1953	October 19, 22
1954	November 1
1956	October 31
1958	October 23 (3:00 p.m.), 24, 30, 31 (11:00 a.m.)
1959	November 4 (12:30 p.m.)

NOTES AND NEWS

$1,000 IN PRIZES

WRITING CONTEST FOR INSECT WORLD DIGEST

Data Courier, Inc., publishers of Insect World Digest, a bimonthly magazine devoted to popular articles on insects and insect life, is sponsoring a writing competition for articles on any entomological subject. The prize winning articles will be published in the magazine. All articles submitted will be considered for purchase by the magazine.

Five prizes are offered: first prize, $500; second prize, $200; and three prizes

of $100 each. The winning articles will be used in the Jan/Feb 1978 and following issues. The deadline for submission of articles is September 1, 1977.

The competition is open to any person in the world (except for staff members and employees of Data Courier, Inc.) All articles must be illustrated with color and/or black-and-white photographs, drawings and diagrams. All articles submitted must be offered for sale and will be purchased at published rates if accepted. No article will be returned unless accompanied by a self-addressed, stamped envelope. (Foreign entries: send international money order for postage or indicate that you will accept a bill for return postage.)

The articles will be judged by a panel of writers and editors consisting of: Dr. James S. Packer, Managing Editor, Entomological Society of America; Mr. Kenneth F. Weaver, Assistant Editor, National Geographic Magazine; Dr. Howard E. Evans, natural history author, Colorado State University; Mr. Robert Boyle, Senior Writer, Sports Illustrated; and Dr. Ross H. Arnett, Jr., Editor, Insect World Digest.

For detailed information, entry blanks, and Author Guidelines, write to the Editor, Dr. Ross H. Arnett, Jr., P.O. Box 505, Kinderhook, NY 12106.

For sample copies (prepaid $2.00 each) of the magazine, write to Data Courier Inc., 620 South Fifth Street, Louisville, KY 40202.

With this issue the Maryland Entomological Society begins an irregular series on many aspects of entomology, particularly pertaining to Maryland and adjacent states. Original articles on geographic and temporal distribution, ecology, biology, morphology, genetics, systematics, behavior, etc. are welcome. Book notices and reviews, news of the members, requests for information, notes on distribution, occurrence, migration and others will be published. All articles are subject to editorial review and acceptance. They should be sent to Ronald W. Hodges, 8309 Rosette Lane, Adelphi, MD 20783.

This publication will reflect the interests, views, and talents of the entire membership. It will be viable as long as everyone views his contributions as necessary and meaningful for its continuance.--RWH

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